

DOCKET: CU-4047

10/522110

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

DT01 Rec'd PCT/PTO

24 JAN 2005

APPLICANT: Qishou XU

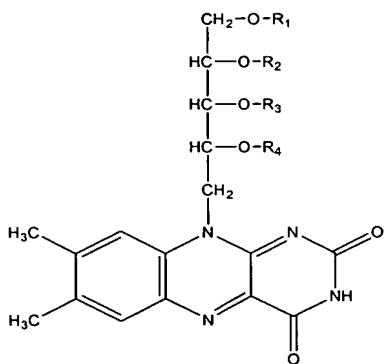
TITLE: A RIBOFLAVIN DERIVATIVE AND ITS MANUFACTURE AND USES

AMENDED CLAIMS

1. (original) A compound of riboflavin derivatives, comprising all ester derivatives of riboflavin or hydroxyl group of ribitol on the lateral chain of sulforiboflavin except the tetra-stearate ester, tetra-palmitate ester, tri-laurate ester, tetra-decanoate ester, tetra-butyrate ester, tetra-acetate ester, tetra-tryptophan ester, phosphate ester of riboflavin.

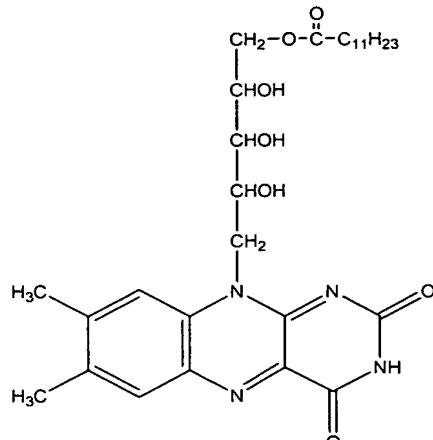
2. (original) The compound according to claim 1, wherein the riboflavin derivatives are the mono-, di-, tri- or tetra-esters of the compound of the following Formula (I),

Formula (I)



in which the groups of R₁, R₂, R₃, R₄ may be different, identical or independent to each other.

3. (original) The compound according to claim 2, wherein the lauric acid monoester of the following Formula (II) is formed by R1 being a lauroyl group, R2, R3 and R4 all being hydrogens of Formula (II)



Formula (II)

4. (original) A synthesis process of preparation of the compound of claim 3, wherein lauroyl chloride is added drop wisely to riboflavin or sulphoriboflavin suspending in polar organic solvent.

5. (original) The process according to claim 4, wherein the polar organic solvent suspending riboflavin or sulphoriboflavin is pyridine or N, N-dimethylformamide.

6. (original) A w/o suspending preparation using the compound of claim 3 as a main active constituent being mainly composed of ethyl oleate and the compound in Formula II.

7. (original) The w/o suspending preparation according to claim 6, wherein camellia oil is added and the ratio of weight and volume of each ingredient are as follows:

Compound II	50 - 150 mg
Ethyl oleate	0.1 - 1 ml
Camellia oil	0-1 ml

8. (original) The w/o suspending preparation according to claim 7, wherein the preferable ratio of weight and volume of each ingredient are as follows:

Compound of Formula II	150 mg
Ethyl oleate	0.5 ml
Camellia oil	0.5 ml

9. (currently amended) An application of the compound of ~~any one of claims 1 to 3~~ claim 1, wherein the compound can be used in preparing the medicament for ariboflavinosis.

10. (currently amended) An application of the compound of ~~any one of claims 1 to 3~~ claim 1, wherein the compound can be used in preparing the medicament for digestive tract catarrh caused by bone marrow transportation, leukemia or chemotherapy.

11. (currently amended) An application of the compound of ~~any one of claims 1 to 3~~ claim 1, wherein the compound can be used in preparing the medicament for persistent oral ulcer.

12. (currently amended) An application of the compound of ~~any one of claims 1 to 3~~ claim 1, wherein the compound can be used in preparing the medicament for coronary heart disease, hypertension syndrome, arthritis and burn wound.

13. (new) An application of the compound of claim 2, wherein the compound can be used in preparing the medicament for ariboflavinosis.

14. (new) An application of the compound of claim 3, wherein the compound can be used in preparing the medicament for ariboflavinosis.

15. (new) An application of the compound of claim 2, wherein the compound can be used in preparing the medicament for digestive tract catarrh caused by bone marrow transportation, leukemia or chemotherapy.

16. (new) An application of the compound of claim 3, wherein the compound can be used in preparing the medicament for digestive tract catarrh caused by bone marrow transportation, leukemia or chemotherapy.

17. (new) An application of the compound claim 2, wherein the compound can be used in preparing the medicament for persistent oral ulcer.

18. (new) An application of the compound claim 3, wherein the compound can be used in preparing the medicament for persistent oral ulcer.

19. (new) An application of the compound of claim 2, wherein the compound can be used in preparing the medicament for coronary heart disease, hypertension syndrome, arthritis and burn wound.

20. (new) An application of the compound of claim 3, wherein the compound can be used in preparing the medicament for coronary heart disease, hypertension syndrome, arthritis and burn wound.